

COVERING WITH TISSUE OVER MYLAR

by Tony Tomlin

Since being involved with the Tomboy3s competition over the last 2+ years I have been covering my Tomboys with tissue over Mylar. This has paid dividends in making the covering tougher and, I now realize, lighter. After reading an article by Mike Woodhouse in an aeromodelling publication I made my first attempt at covering. The Mylar I used was 5 micron clear under Esaki Lite Flite Tissue.

Starting on the wing. After sanding the structure very smooth, as any imperfections will stick up like a sore thumb, I used Balsaloc as an adhesive thinned slightly with water. Using a piece of plastic sponge I applied the Balsaloc to the leading and trailing edge, ribs, tips etc. The adhesive was applied to the sheeted areas to give a strip approx 1/4" wide adjacent to the open structure. I did try thinned down Evostick but found the fumes irritating to my eyes and it was very difficult to apply.

Next thing was to cut the Mylar to size. I found the only successful way, without tearing, was to use a cutting mat and a brand new Wilkinson Sword [or equivalent] razor blade. Using pliers I carefully snapped the blade in half pushing the 'blunt' edge into a piece of 1/4" square balsa strip long enough to cover the back of the blade. This was locked in place with a drop of cyano giving a useful handle. After cutting the Mylar a little oversize all round I applied my first panel to the underside of half of the wing.

Using a heat shrink iron, set at a mid range setting, the Mylar was laid in place and 'tacked' along the leading and trailing edges ribs /tips etc. There is no need to get it drum tight at this stage. The iron heat is then increased to about 75% of its max. heat settings and the covering shrunk in place. Any creases can be removed with a little extra heat. If any warps seem to have crept in these can be removed with heat and reset by an opposite twist to the structure. The surplus Mylar is then cut away and the top surface is then tackled by cutting the Mylar to allow the edges to just touch at the leading edge and cut off square at the trailing edge. After completing the wing covering with Mylar we come to the easy bit.

When covering with tissue, the tissue is applied rough side up with the grain running tip to tip.

Starting with a bottom panel, I first tried applying the tissue wet and doping through starting from the center. I found I was unable to get the tissue to lay smoothly on the wing and finished up with a ball of soggy tissue. The next attempt was to apply the tissue dry doping through onto the Mylar and then water spraying. Success? No! I finished up with creases! Then at last success after I applied the tissue dry and used Pritt Stick as an adhesive. Easy, and clean to do. After waiting a couple of hours for the adhesive to dry I lightly water sprayed the wing and left it overnight.

Overnight the tissue had dried and was taught and crease free. For doping I used Nitrated Low Taughtening dope from Flitehook. This was thinned to a 2/3rd thinners to 1/3rd dope mixture and the dope was applied with a soft brush. Only two coats were applied giving a good semi gloss finish and, because the Mylar film is totally air proof, the covering was complete. The finished structure is now certainly much stronger and, due to the dope evaporating only into the air and not into the structure, you have finished with a lighter airframe.

- Disadvantages;** Requires a lot of patience, Mylar film sticks to clothes etc with static and has to be cut with a very sharp blade.
- Advantages;** Stronger, air proof, lighter than doped tissue. Tissue can be butted edge to edge using different colours for wing stripes as a vision aid.
- Improvements;** I have recently been using 10 micron Mylar. This is easier to handle and is a good deal stronger. The weight difference on a Tomboy is only a few grams more, certainly worth the extra strength.

Suppliers;
Free Flight Supplies. Tel 01603457754
Web site: http://www.freeflight_supplies.co.uk

Flitehook. Tel 02380861541
Web site:[http:// www.flitehook.net](http://www.flitehook.net)